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Southeastern Area, State and Private Forestry 1720 Peachtree Road, N.W. Atlanta, Ga. 30367

Southern Pine Beetle Fact Sheet
Number 20

ECONOMIC IMPACT OF THE SOUTHERN PINE BEETLE ON RECREATION—ONE APPROACH

Description.—Researchers at Virginia Polytechnic Institute and State University demonstrated a technique for quantifying the economic impact of southern pine beetle (SPB) infestations on campground use. The technique was applied to reservoir based recreation areas in east Texas, where three types of SPB-caused damage were identified.

Type 1—Damage that caused people to stop visiting a campsite (and possibly to visit an alternative site).
Type 2—Damage that resulted in less enjoyment by people who continued to use the campsite.
Type 3—Damage that required additional cleanup.

Investigators acknowledged at the beginning that they had no method for placing a monetary value on the decrease in user enjoyment resulting from SPB attacks on recreation sites. Therefore, only damage types 1 and 3 were considered in this case study. Damage that resulted in decreased use of the campsite was of primary concern because cleanup costs were simple to calculate and relatively small in comparison.

Methodology.—The demand for recreation at selected areas was evaluated by developing a demand curve for each campground, with total demand for recreation at a particular site being a function of: travel costs, on-site fees, the number of alternative recreation areas that were closer to the user's point of origin, the number of households at the point of origin, the number of electrical hookups at the site, and the percentage of the site that was covered by hardwood and pine crowns.

The recreational value attributed to a campground was measured by varying the percentage of crown cover, while holding all other factors constant. This resulted in a shift in the demand curve, which in turn caused a change in the value of recreation at the site being studied. For a detailed explanation of these relationships, refer to the reference cited on page 2.

Results.—The researchers found that the demand for recreation decreased as the percentage of pine crown coverage was reduced.

To evaluate the damages over a large geographical area, the investigators adjusted the on-site values to account for the substitution effect (campers substituting undamaged for damaged sites). This adjustment resulted in an area-wide damage appraisal that was less than 15 percent of the on-site damage figure.

Comments.—The techniques used in this study should help decision-makers determine the economic feasibility of controlling SPB damage on recreation sites. The procedure can be used to evaluate the impact of any insect or disease (or any other damage) that causes a change in crown cover.

This methodology requires considerable time and expense to implement. Equations must be fitted to sites, much data needs to be collected, and a knowledge of economics and statistics is essential.

For further information, contact: Economist, USDA Forest Service; Southeastern Area, FPM; 1720 Peachtree Rd.,N.W., Suite 710, Atlanta, Ga. 30367.

Reference:

Leuschner, W. A. and R. L. Young.
1978. Estimating the southern pine beetle's impact on reservoir campsites. For. Sci. 24: 527–36.

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